WEATHER WIZARDS

For over 200 years, weather observations of precipitation, temperature, atmospheric pressure, wind, and many other parameters have been taken at tens of thousands of sites worldwide. These records yield critical information on the speed and extent of climate change. These daily observations, recorded by hand as numbers on a form, were readily available to the meteorologists and hydrologists and are the basis for most countries' historic hydrometeorological archives, including those in the USA.

However, detailed records showing parameter values continuously taken, 24 hours per day, exist but are not in a format that is usable by scientists. They exist, not as numbers on a weather observation form that could be easily read and transmitted to the forecasters, but as ink traces on tens of millions of charts.

For example, these analog charts recorded precipitation amounts, not every 24 hours, but every minute. Such detailed data is of critical importance in helping scientists develop more accurate computer models to forecast flash floods and mudslides.

Why wasn't the critical information retrieved from these analog strip charts and made available to the researchers, modellers and forecasters? It takes about 30 minutes to manually examine an average chart and transcribe the parameter values. Considering the world has tens of millions of these charts in storage, the task has been almost impossible.

The **Weather Wizards** digitization program, developed by Summit Business Technologies for IEDRO provides an answer.

__Weather Wizards__ enables unskilled people to view a computer image of a strip chart. They sweep the cursor over the ink trace on the chart registering the parameter value at whatever time interval is needed. One chart, with practice, can be digitized in about a minute, <u>30 times faster than a manual effort</u>.

As a quality control feature, several people can digitize the same chart. The software compares all the entries and determines which parameter values are correctly identified before those data are stored as a comma-delimited file that is easily usable by any computer program.

With the **Weather Wizards** program, IEDRO will work with the National Meteorological and Hydrologic Services throughout the world to get billions of detailed old weather observations digitized and made available to the world for the benefit of all humanity.